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# LONG TERM EVALUATION OF INFORMATION LITERACY PROGRAMME

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## **Abstract**

The Technische Universität München library was the first university library in Germany to be certified by TÜV with respect to its ISO 9001:2001 quality management. One of the main objectives of our quality management policy is to measure customer satisfaction not only in the short-term, but also over longer periods of time, in order to constantly develop and improve our services.

To this end, TUM library management have decided to conduct a long term evaluation of its information literacy (IL) programme. We regularly ask course participants for feedback immediately after the events and evaluate these yearly. Additionally, we have started to survey long term changes in awareness and sustainability of course content. The library's IL programme has been in place for over three years, and has thus generated sufficient data for reliable evaluation.

The main object of our investigation is the assessment of effectiveness of our IL programme and further guidance as to how we can improve our services.

We have been evaluating about 100 IL events, which took place between 6 and 24 months ago. Our study includes the four main types of workshops, which comprise basic and advanced literature search, referencing, and reference management. An online survey contains questions regarding the significance and the application of the skills taught during the courses. We also ask about any identified lack of resources or learning goals, and our e-learning material. The first phase of the evaluation was conducted between February and March 2014.

This paper presents our findings from the evaluation project, our conclusions, and recommendations for the further development of the IL programme.

## **Keywords**

Information Literacy, quality management, long-term evaluation

## **Background / Motivation**

The Technische Universität München (TUM) library was the first university library in Germany to be certified by TÜV with respect to its ISO 9001:2001 quality management.

One of the main objectives of our quality management policies is to measure customer satisfaction in order to constantly develop and improve our services. We have conducted surveys among students and academic staff in the past, but these were more generalised. In terms of our Information Literacy (IL) programme we decided to introduce evaluations over longer periods of time to complement the existing short term evaluation.

Immediately after IL training events we give out feedback forms to participants to measure their attitudes to the event. Participants are asked to rate the relevance of the individual topics, to evaluate teaching methods and leave general comments. These provide immediate feedback to the instructor. Once a year course coordinators compile and analyse the data and disseminate the results among the team of instructors.

Additionally, we decided to evaluate the relevance of the training content and its impact for participants in the long-term. How sustainable are the skills acquired in the training and which ones would participants apply in their current studies?

As library instruction at TUM is usually one off, there is limited opportunity for formative evaluation. We agreed on a survey among participants using self-assessment. To produce comparable results we limited the events to our standard IL programme. As this has been in place for over three years so it has generated sufficient data.

## **Aims and Objectives**

1. To find out if the workshops make a difference for former participants and evaluating long term effectiveness of the training content
2. To find out if there are significant differences between short-term and long-term evaluation
3. Suggestions (and inspirations) for improvements

We are aware of the limitations of the chosen method as explained by Schilling and Applegate (2012). Self-report surveys do not measure skills or knowledge, but give an idea of students' perceptions and attitudes.

## **Subject of investigation and timeframe**

We decided to survey the four main types of workshops of our standard programme, excluding any embedded training.

The introductory library workshop entitled "Get ready for your studies" comprises literature search for books and journals, interlibrary loan and internet search. The advanced library workshop "Get ready for your degree" includes developing a search strategy, finding the right database for one's subject, searching in databases and referencing. Further we evaluated the basic and advanced workshop on the reference management software Citavi. In total we have evaluated 96 events. The participants were mainly students, although there are also a number of staff who attended the reference management workshops.

The timeframe investigated covered the period between January 2012 to July 2013, which at the time of the survey was between 6 and 24 months ago.

## **The survey**

The survey was conducted between February and March 2014 as an online survey using the TUM licenced software Evasys. Due to data protection<sup>1</sup>, we were only able to contact less than half of the participants, which came to a total of 690 emails. It was open for 2 weeks.

The survey was prepared in consultation with a librarian adept in surveys and adhering to the main rules for surveys established by Porst (2009). All questions were created with the team of the course leaders and discussed several times. The survey specialist at the university provided us with helpful advice on methodology and technical issues to do with the software. After a pretest, we slightly changed a few questions.

The questionnaires comprised topics, which were course-specific as well as generic questions. We had 12-14 scaled and multiple choice questions and five open-ended text questions.

The questionnaire was divided into five sections. In the first section, the main objectives and terms of the survey were explained, and the participants had to indicate their academic status and faculty. In the second section, we asked participants to assess the significance of the different topics taught in the course in retrospect. These were scaled and correlated to the questions on the feedback form. They were followed by two open-ended questions for comments and any suggestions for additional content. The third section included a range of questions on self-assessing skills and behavior, self-perception and confidence regarding tools and skills we had identified as learning goals. Again, there was an opportunity to leave comments. The forth section focused on participants' attending other workshops and the awareness of our e-Learning-material. In the final section we asked participants which topics they found most useful and if they had any suggestions for improvement.

The courses were separated into three surveys containing workshops from each half-year period. The reason for this was that we wanted to find out if the return rate would decrease over time.

The overall return rate of our survey was 23%; in sum, and 156 questionnaires to analyse. Though these don't represent the total of all participants, we still think the results are significant and meet our objectives. We decided to omit the results of the advanced reference management workshop as the total number of responses was only 12. For the remaining workshops, we received between 41 and 63 responses each - 144 questionnaires in total.

## **The results - findings**

The return rate was similar across all workshops. Equally, the assumption of a lower return rate for the workshops in the first half year 2012 did not prove to be true. However, we received some comments mentioning difficulty in remembering details as the training had taken place a long time ago.

In the following, I will focus on the results that met (or failed to meet) our objectives...

1. indicating that the workshops do make a difference for the participants
2. showing significant difference to the feedback we get immediately after the workshops
3. Outcomes that are significant or surprising for us

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<sup>1</sup> In line with data protection regulations we were allowed to address institutional email-accounts only

4. and lead to any conclusions and/or further action on our IL programme

### 1. Do the workshops make a difference for the participants?

71% (introductory workshop) and 83% (advanced workshop) of the participants acknowledge that their research skills have improved since they participated in the workshop. Over all course types and over all topics, a clear majority of participants rated the content as very important (51%) or important (25%).

In the comments section we received quite a few statements about the positive effect of the workshops, e.g.

*“Great presentation and helpful instructor! This event has supported me to write a great dissertation”<sup>2</sup>*

*“This workshop was part of my Master’s degree studies. However, the skills I have acquired in this workshop would have been very helpful for my Bachelor’s degree studies...”<sup>3</sup>*

*“This was by far the best training at TUM and I received the top grade for my dissertation! The instructor, Ms... was very good! This is a most boring topic, but the training was very interesting! TOP!”<sup>4</sup>*

To find out if specific topics were seen as more relevant than others, we asked “Which topics have you found most useful in retrospect?”

Almost a third (29%) of the participants used the opportunity to leave their opinion at this point. The comments included a wide range of topics that were part of the training sessions. The only topic that stood out was bibliographic databases. Participants in the advanced library workshop emphasised their importance for their literature search much above average.

### 2. Differences short-term and long-term feedback

#### Topic Internet Search

Contrary to the feedback we get immediately after the workshops, where participants in the introductory library workshop are not sure about the importance of internet searches we had a consistent high evaluation on this in the long term. On average, only 61% rated this topic as important in the short-term. In the long-term term, 87% rated this topic as being very important (67%) or important (20%).

On the other hand, more than 34% of participants said that they are not able to find relevant sources on the Internet. At first, this seems rather contradictory.

This could indicate that we do not teach the right content, but we did not receive any comments that would support this presumption. We interpret these numbers as indicating that being more knowledgeable in this area, participants assessed their own skills more critically than before.

#### Topic Referencing

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<sup>2</sup> „Toller Vortrag und eine hilfsbereite Referentin! Diese Veranstaltung hat mir sehr geholfen, eine tolle Abschlussarbeit zu schreiben.“ (all translations from German by Tina Hohmann)

<sup>3</sup> „Dieser Kurs wurde als Pflichttermin im zuge meines Masterstudiums absolviert. Schon während des Bachelorstudiums hätte mir das in diesem Kurs erlangte Wissen sehr geholfen...”

<sup>4</sup> „Es war mit abstand der beste kurs an der tum und ich habe auf meine abschlussarbeit eine 1.0 bekommen! Die Dozentin frau ... war sehr gut! Es ist ein langweiliges nerviges thema aber der kurs war sehr interessant! TOP!“

On the short-term feedback forms on the advanced library workshop, only 57% of participants rated referencing as important. Additionally, we regularly received feedback about this section as being too extensive. From the current results, it seems this topic is valued more highly over time. In retrospect more than 75% rated this topic as very important (57%) or important (18%). Also, it was mentioned by a few participants as an area where they would have liked even more input. Nevertheless, 40% of participants do not feel confident in this area. Individual comments indicate that there is great uncertainty about non-existent regulations at the university. Equally we receive mixed feedback from instructors that often reflects their own insecurity.

*“More about correct referencing, please (esp. in connection with the recent plagiarism scandals) – whereas collaboration with faculties is needed in order to develop a standard referencing style across the university or at least the faculties. Currently each chair seems to have its own referencing style...”<sup>5</sup>*

### 3. Significant or surprising results

#### Reference management software Citavi

A relatively high number of participants (30%) of the Citavi workshop indicated that they are currently not using Citavi on a regular basis. At least in some cases this was not their own decision as explained in the comments:

*“Citavi is great – unfortunately, where I did my Bachelor’s placement, everybody was using EndNote. Inevitably I had to do the same...”<sup>6</sup>*

*“At present not regularly using Citavi as I had to switch to Endnote at the request of my current supervisor”<sup>7</sup>*

These comments indicate that EndNote is widely-used among TUM staff and industry, which leads to students switching software. Therefore, we can see the usage statistics for Citavi in a different light.

#### Awareness of the IL programme across university

There were a few comments mentioning the lack of awareness across the university and suggesting embedding the workshops as compulsory components in the curriculum.

*“A lot of students, even in their last year, are not aware of the range of resources on offer. Everybody should attend this workshop.”<sup>8</sup>*

*“...Both of your workshops were very helpful. All students from semester 5 should attend these.”<sup>9</sup>*

*“... I had no idea (about the workshops) and none of the lecturers has mentioned them.”<sup>10</sup>*

*“Maybe you should do more to advertise the fact that you offer workshops regularly and that they are not time-consuming. I know quite a few other students, who would have benefitted*

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<sup>5</sup> „Etwas mehr über korrekte Zitierweise (speziell im Zusammenhang mit den Plagiatsskandalen der letzten Zeit) - wobei dabei eine Zusammenarbeit mit den Fakultäten nötig ist, um einheitliche Zitierstile für die gesamte TUM oder zumindest für einzelne Fakultäten zu erarbeiten. Momentan scheint jeder Lehrstuhl einen eigenen Zitierstil zu haben...”

<sup>6</sup> „Citavi ist toll - leider benutzten bei meiner Bachelorarbeitsstelle alle EndNote. Ich dann zwangsläufig auch ...“

<sup>7</sup> „zur Zeit keine regelmäßige Nutzung mehr von Citavi, da auf Wunsch meines jetzigen Betreuers der Masterarbeit Wechsel zu Endnote“

<sup>8</sup> „Viele Studenten, selbst kurz vor der Abschlusarbeit, kennen das Rechercheangebot der TUM nicht. Dieser Kurs sollte von jedem besucht werden.“

<sup>9</sup> „...Ihre Recherchekurse waren beide sehr hilfreich und sollten meiner Meinung nach ab dem 5. Semester von jedem Studenten besucht werden.“

<sup>10</sup> “... Ich wusste jedoch nicht das er angeboten wird bzw. keiner der Dozenten hat darauf hingewiesen.“

*from the workshop, but are not aware that you run them... How about a !short! email about the training programme to the students reps.”<sup>11</sup>*

### **Other topics...**

Many students (27%) are not aware that they cannot find journal articles in the library catalogue. This is not very surprising and might be connected to the fact that some students criticised OPAC as not being very user-friendly.

*“The OPAC catalogue should be revised fundamentally, esp. getting more user-friendly, no wonder that no one wants to deal with it”<sup>12</sup>*

More than 63% of participants said that they do not use different search tools, such as Truncation. Obviously, this is a very high number, but we realise it might be due to the fact that the question was not clear. Most students are probably not familiar with the term “Truncation” and therefore answered no.

Among the results from the Citavi workshop, there are two areas where we received results that show a similar pattern, but might have different causes. A relatively high proportion of participants (27%) were undecided about whether generating bibliographies is important, and another 13% did not answer the question. However, a clear majority (85%) stated that they know how it works. Apparently, this is a function that is very easy to use, so participants might have known about it beforehand or regard it as easy to learn, and therefore do not rate it as being as important as other topics. Similarly, 23% of participants were undecided about the importance of exporting from databases, and 21% thought it not important. On the other hand, 82% know how it works. This might indicate the same as before, but it is a rather complex tool, and from immediate feedback, we know that there are students who do not use databases for their studies. In this case, we assume that although participants are familiar with the function are not using it in the long-term.

Participants in the Citavi workshop rated two areas above average: Using Citavi in LaTeX and how to use Citavi on several computers.

### **Implications for our IL programme**

There is a clear need to raise awareness of our IL programme across the university. Currently we use a mix of tools to promote our services. In a brainstorming meeting with staff from marketing, we will be looking into more student-focused and unconventional ways of promoting our services, and as suggested use student reps or the student union as disseminators. At the same time, we plan to contact faculties whose students are less represented at the workshops to promote our services. Ideally, IL sessions would be embedded in their curriculum.

The results demonstrate that training on internet search is very important to our users. We will continue teaching it, and acknowledge the need for keeping up to date in this area.

We have recently started developing a paper on referencing, which we seek to agree with the TUM ombudsperson for the academic code of practice. The aim is to publish a set of generic guidelines for the faculties at TUM and to encourage faculties to announce generic referencing

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<sup>11</sup> „Vielleicht sollten Sie noch etwas mehr Werbung machen, die beinhaltet, dass es die Kurse regelmäßig gibt und dass sie nur kurz dauern. Ich kenne einige Kommilitonen, denen der Besuch mehr geholfen hätte als mir, die aber von dem Kurs gar nichts wussten... Gut wäre z.B. eine !kurze! Rundmail mit dem Kursangebot zu Semesterbeginn an die Fachschaftsverteiler.“

<sup>12</sup> „OPAC Katalog müsste grundlegend überarbeitet werden, und vorallem Studentenfreundlicher werden, kein Wunder das sich niemand effektiv damit auseinander setzt“

guidelines. At the same time, we are preparing an online tutorial/set of elearning materials on referencing for students to refer to any time.

Generating bibliographies has been reduced to the main steps in the current version of the Citavi workshop. We see no need to change the content regarding exporting from databases and we see this function as an essential tool for academic writing.

As the integration of LaTeX has been requested in short term evaluation in past years, this has since been included in the Citavi advanced workshop. To enable using Citavi on several computers smoothly, a web-based version would be necessary, which is not in our hands, but the software developer is aware of the issue.

### **Lessons learned and further action**

For the future, we plan to repeat long-term surveys on our IL programme on a regular basis. Next time we would like to include other course types such as the workshops for PhD candidates and for researchers. In order to be able to address more participants, we will include a declaration of consent regarding contacting participants on the course list / on the registration form.

In order to test skills, we are considering including knowledge tests for participants, but that would involve pre-tests and testing a control group, which is usually not possible because of the nature of the workshops.

The pretest for the survey should include more non-library related people to avoid misunderstandings in the questionnaire.

### **Conclusion**

The long-term evaluation of our IL programme helps to understand students' attitudes and perceptions regarding our instructional trainings. It complements the range of efforts to measure customer satisfaction for TUM library and thus adds a valuable element to our quality management programme.

We see the results as evidence that our workshops do make a difference for the students. The mainly positive feedback shows that we are on the right track. We might use some of the results – esp. from the comments - to raise awareness across the university and to promote the integration of IL workshops into the curriculum at the faculties. In this respect, it may help strengthen our position within the university.

We were able to find out more about the long-term effect of our trainings, received suggestions for improvement, and will adapt content according to our users' needs.

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